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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/636,152	08/07/2003	Srinivasan Venkatesan	FC-120	1809

24963 7590 06/29/2005

ENERGY CONVERSION DEVICES, INC.
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EXAMINER

MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/636,152

Applicant(s)

VENKATESAN ET AL.

Examiner

Angela J. Martin

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/03; 10/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al., U.S. Pat. Application Pub. 2003/0180584 A1.

Rejection of claims 1-3, 20-22 drawn to a hybrid fuel cell.

Suzuki et al., teach a hybrid fuel cell comprising a fuel cell portion and a rechargeable battery portion, the fuel cell and battery adapted to operate alone or in tandem (sect. 0016-0020); the fuel cell and battery adapted to share at least one reactant (sect. 0020). It teaches the anode is disposed between the fuel cell and battery portions (Fig. 1-3). It teaches the anode is shared between the fuel cell and battery portions (Fig. 1-3). It teaches the battery is adapted to accept electrical current from a source of power external to hybrid fuel cell and adapted to accept electrical current produced by fuel cell (sect. 0156). It teaches the fuel cell and battery share an electrolyte (sect. 0167).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., U.S. Pat. Application Pub. 2003/0180584 A1, in view of Ovshinsky et al. U.S. Pat. Application Pub. 2004/0248005 A1.

Rejection of claims 4-7 drawn to a hybrid fuel cell.

Suzuki et al., teach a hybrid fuel cell as described above.

Ovshinsky et al., teach an anode active material including aluminum (abstract). It teaches 90-94 wt percent of anode active material and 3-9 wt percent of a binder. It teaches the anode comprises a hydrogen storage material. It teaches 0-94 wt percent of hydrogen storage material, 1-95 wt percent alloy, 3-9 wt percent binder, 2-5 wt percent conductive material (sect. 0024).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Ovshinsky et al., into the teachings of Suzuki et al., because Ovshinsky et al., teach another type of anode active material for the battery, depending on the battery choice for a particular electrical device.

5. Claims 8-12, 14, 15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., U.S. Pat. Application Pub. 2003/0180584 A1, in view of Ovshinsky et al., U.S. Pat. No. 6,447,942 B1

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Rejection of claims 8-12, 14, 15, 19 drawn to a hybrid fuel cell.

Suzuki et al., teach a hybrid fuel cell as described above.

Ovshinsky et al., teach the conductive material comprises graphite (col. 14, lines 50-53). It teaches the hydrogen storage material comprises Misch metal alloys, zirconium alloys, titanium alloys (col. 8, lines 46-58). It teaches a cathode in electrical communication with the anode (col. 12, lines 25-36). It teaches the cathode comprises a carbon matrix with an active catalyst material catalytic toward the dissociation of molecular oxygen (col. 4, lines 15-18; col. 10, lines 29-35). It teaches the catalyst is cobalt, manganese, nickel (col. 10, lines 22-26). It teaches an auxiliary electrode, which is a positive electrode (col. 10, lines 51-65).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Ovshinsky et al., into the teachings of Suzuki et al., because Ovshinsky et al., teach the a fuel cell which utilizes electrodes which "contain no costly noble metals and operate at ambient temperatures." In addition, the hydrogen storage materials store hydrogen and have "excellent catalytic activity."

6. Claims 13, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., U.S. Pat. Application Pub. 2003/0180584 A1, in view of Menjak et al., U.S. Pat. Application Pub. 2003/0059664 A1.

Rejection of claims 13, 18, 19 drawn to a hybrid fuel cell.

Suzuki et al., teach a hybrid fuel cell as described above.

Menjak et al., teach the cathode comprises a peroxide decomposing material (sect. 0095). It teaches positive active material of copper oxide, silver oxide, nickel hydroxide/oxyhydroxide (sect. 0089-0090).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Menjak et al., into the teachings of Suzuki et al., because Menjak et al., give examples of cathode active material.

7. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al., U.S. Pat. Application Pub. 2003/0180584 A1, in view of Stachurski, U.S. Pat. No. 3,532,548.

Rejection of claims 14-17 drawn to a hybrid fuel cell.

Suzuki et al., teach a hybrid fuel cell as described above.

Stachurski teaches an auxiliary electrode comprising positive electrode material, which is a nickel electrode (abstract). It teaches the auxiliary electrode is silver (col. 2, lines 60-68).


Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the teachings of Stachurski into the teachings of Suzuki et al., because Stachurski teaches "a modification of a 'hybrid fuel cell' which makes it possible to operate at higher energy-output rates."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-

1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AJM



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER